

APPLICATION FOR FEDERAL ASSISTANCE
SF 424 (R&R)

1. TYPE OF SUBMISSION <input type="checkbox"/> Pre-application <input checked="" type="checkbox"/> Application <input type="checkbox"/> Changed/Corrected Application		3. DATE RECEIVED BY STATE <input type="text"/>	State Application Identifier <input type="text"/>
2. DATE SUBMITTED <input type="text"/>	Applicant Identifier <input type="text"/>	4. a. Federal Identifier N00014	b. Agency Routing Identifier 320 [Drake, Thomas]
		c. Previous Grants.gov Tracking ID <input type="text"/>	
5. APPLICANT INFORMATION UEI: PKFJZHG2MLG9			
Legal Name: National Academies of Sciences			
Department: Ocean Studies Board			
Division: Division on Earth and Life Studies			
Street1: 500 Fifth St, NW			
Street2: <input type="text"/>			
City: Washington County / Parish: <input type="text"/>			
State: DC: District of Columbia Province: <input type="text"/>			
Country: USA: UNITED STATES ZIP / Postal Code: 20001-2726			
Person to be contacted on matters involving this application			
Prefix: <input type="text"/> First Name: Russell Middle Name: <input type="text"/>			
Last Name: Walker Suffix: <input type="text"/>			
Position/Title: Contract Manager			
Street1: 500 Fifth St, NW			
Street2: <input type="text"/>			
City: Washington County / Parish: <input type="text"/>			
State: DC: District of Columbia Province: <input type="text"/>			
Country: USA: UNITED STATES ZIP / Postal Code: 20001-2726			
Phone Number: 202-334-2004 Fax Number: <input type="text"/>			
Email: rwalker@nas.edu			
6. EMPLOYER IDENTIFICATION (EIN) or (TIN): 53-0196932			
7. TYPE OF APPLICANT: M: Nonprofit with 501C3 IRS Status (Other than Institution of Higher Education) Other (Specify): <input type="text"/>			
Small Business Organization Type <input type="checkbox"/> Women Owned <input type="checkbox"/> Socially and Economically Disadvantaged			
8. TYPE OF APPLICATION: <input checked="" type="checkbox"/> New <input type="checkbox"/> Resubmission <input type="checkbox"/> Renewal <input type="checkbox"/> Continuation <input type="checkbox"/> Revision		If Revision, mark appropriate box(es). <input type="checkbox"/> A. Increase Award <input type="checkbox"/> B. Decrease Award <input type="checkbox"/> C. Increase Duration <input type="checkbox"/> D. Decrease Duration <input type="checkbox"/> E. Other (specify): <input type="text"/>	
Is this application being submitted to other agencies? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> What other Agencies? <input type="text"/>			
9. NAME OF FEDERAL AGENCY: Office of Naval Research		10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: 12.300 TITLE: Basic and Applied Scientific Research	
11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT: Increasing Diversity, Equity, Inclusion, Belonging, Accessibility, and Justice (DEIBAJ) in the US Ocean Studies Community			
12. PROPOSED PROJECT: Start Date: 09/01/2022 Ending Date: 02/28/2025		13. CONGRESSIONAL DISTRICT OF APPLICANT DC	

14. PROJECT DIRECTOR/PRINCIPAL INVESTIGATOR CONTACT INFORMATION

Prefix: First Name: Middle Name:
 Last Name: Suffix:
 Position/Title:
 Organization Name:
 Department:
 Division:
 Street1:
 Street2:
 City: County / Parish:
 State: Province:
 Country: ZIP / Postal Code:
 Phone Number: Fax Number:
 Email:

15. ESTIMATED PROJECT FUNDING

a. Total Federal Funds Requested
 b. Total Non-Federal Funds
 c. Total Federal & Non-Federal Funds
 d. Estimated Program Income

16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?

a. YES ☐ THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON:

DATE:

b. NO ☒ PROGRAM IS NOT COVERED BY E.O. 12372; OR
☐ PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW

17. By signing this application, I certify (1) to the statements contained in the list of certifications* and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances* and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)

☒ I agree

*The list of certifications and assurances, or an Internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

18. SFLLL (Disclosure of Lobbying Activities) or other Explanatory Documentation

Add Attachment

Delete Attachment

View Attachment

19. Authorized Representative

Prefix: First Name: Middle Name:
 Last Name: Suffix:
 Position/Title:
 Organization:
 Department:
 Division:
 Street1:
 Street2:
 City: County / Parish:
 State: Province:
 Country: ZIP / Postal Code:
 Phone Number: Fax Number:
 Email:

Signature of Authorized Representative

Date Signed

Russell Walker

08/04/2022

20. Pre-application

Add Attachment

Delete Attachment

View Attachment

21. Cover Letter Attachment

Add Attachment

Delete Attachment

View Attachment

RESEARCH & RELATED Other Project Information

OMB Number: 4040-0001
Expiration Date: 12/31/2022

1. Are Human Subjects Involved? ☐ Yes ☒ No

1.a. If YES to Human Subjects

Is the Project Exempt from Federal regulations? ☐ Yes ☐ No

If yes, check appropriate exemption number. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8

If no, is the IRB review Pending? ☐ Yes ☐ No

IRB Approval Date:

Human Subject Assurance Number:

2. Are Vertebrate Animals Used? ☐ Yes ☒ No

2.a. If YES to Vertebrate Animals

Is the IACUC review Pending? ☐ Yes ☐ No

IACUC Approval Date:

Animal Welfare Assurance Number:

3. Is proprietary/privileged information included in the application? ☐ Yes ☒ No

4.a. Does this Project Have an Actual or Potential Impact - positive or negative - on the environment? ☐ Yes ☒ No

4.b. If yes, please explain:

4.c. If this project has an actual or potential impact on the environment, has an exemption been authorized or an environmental assessment (EA) or environmental impact statement (EIS) been performed? ☐ Yes ☐ No

4.d. If yes, please explain:

5. Is the research performance site designated, or eligible to be designated, as a historic place? ☐ Yes ☒ No

5.a. If yes, please explain:

6. Does this project involve activities outside of the United States or partnerships with international collaborators? ☐ Yes ☒ No

6.a. If yes, identify countries:

6.b. Optional Explanation:

7. Project Summary/Abstract

8. Project Narrative

9. Bibliography & References Cited

10. Facilities & Other Resources

11. Equipment

12. Other Attachments ☐

Project Abstract Summary

This Project Abstract Summary form must be submitted or the application will be considered incomplete. Ensure the Project Abstract field succinctly describes the project in plain language that the public can understand and use without the full proposal. Use 4,000 characters or less. Do not include personally identifiable, sensitive or proprietary information. Refer to Agency instructions for any additional Project Abstract field requirements. If the application is funded, your project abstract information (as submitted) will be made available to public websites and/or databases including USAspending.gov.

Funding Opportunity Number

N00014-22-S-B001

CFDA(s)

12.300

Applicant Name

National Academies of Sciences

Descriptive Title of Applicant's Project

Increasing Diversity, Equity, Inclusion, Belonging, Accessibility, and Justice (DEIBAJ) in the US Ocean Studies Community

Project Abstract

An ad hoc committee will undertake a study to ascertain the impediments, including past social policies leading to marginalization, and identify evidence-based approaches for increasing the racial and ethnic diversity of the ocean studies workforce. The committee's report will identify specific strategies to guide future activities to advance the adoption of evidence-based practices and policies for increasing diversity, equity, inclusion, belonging, accessibility and justice (DEIBAJ) in the ocean studies community.

The study will include the following:

- Collection of existing and new narratives from ocean enterprise professionals representing historically excluded, or marginalized, racial and ethnic groups to help clarify the variety of barriers that exist and the losses caused by these barriers not only to ocean studies but also to the individuals themselves. This will include consideration of intersectionality for other identifiers such as gender, sexual orientation, disability, native country, religion, and others.
 - Analysis of policies, strategies, and practices of current and previously funded ocean studies programs that have sought to build more diverse, equitable, and inclusive working environments. This analysis will include identification of what has been successful and the metrics used to define success across a broad array of ocean studies institutions and potential examples from other STEM fields.
 - Development of explicit goals in a coordinated strategy across ocean studies that relates to each element of DEIBAJ.
- Identification of metrics to evaluate progress in the implementation of recommended strategies such as by educational institutions, government agencies, and other organizations (e.g. conservation groups, ocean industries) that employ experts in ocean studies.

Approved for Public Release

RESEARCH & RELATED BUDGET - Budget Period 1

OMB Number: 4040-0001
Expiration Date: 12/31/2022

UEI: PKFJZHG2MLG9

Enter name of Organization: National Academies of Sciences

Budget Type: ☒ Project ☐ Subaward/Consortium

Budget Period: 1

Start Date: 09/01/2022

End Date: 08/31/2023

A. Senior/Key Person

Prefix	First	Middle	Last	Suffix	Base Salary (\$)	Months			Requested Salary (\$)	Fringe Benefits (\$)	Funds Requested (\$)		
						Cal.	Acad.	Sum.					
	Emily		Twigg						(b)	(4)			
Project Role:	PD/PI												
	Susan		Robert										
Project Role:	Board Director												
	Maria		Dahlberg										
Project Role:	Senior Program Officer/Acting Director												

Additional Senior Key Persons:

Add Attachment

Delete Attachment

View Attachment

Total Funds requested for all Senior Key Persons in the attached file

Total Senior/Key Person

53,224.02

B. Other Personnel

Number of Personnel	Project Role	Months			Requested Salary (\$)	Fringe Benefits (\$)	Funds Requested (\$)
		Cal.	Acad.	Sum.			
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
1	Secretarial/Clerical				(b) (4)		
3	Research Associate, Finance Business Partner, Communication Associate						
4	Total Number Other Personnel						

Total Other Personnel

21,143.98

Total Salary, Wages and Fringe Benefits (A+B)

(b) (4)

C. Equipment Description

List items and dollar amount for each item exceeding \$5,000

Equipment item	Funds Requested (\$)
<input type="text"/>	<input type="text"/>
Additional Equipment: <input type="text"/>	<input type="text"/>
<input type="button" value="Add Attachment"/>	<input type="button" value="Delete Attachment"/>
<input type="button" value="View Attachment"/>	
Total funds requested for all equipment listed in the attached file	<input type="text"/>
Total Equipment	<input type="text"/>

D. Travel

	Funds Requested (\$)
1. Domestic Travel Costs (Incl. Canada, Mexico and U.S. Possessions)	<input type="text" value="28,932.00"/>
2. Foreign Travel Costs	<input type="text"/>
Total Travel Cost	<input type="text" value="28,932.00"/>

E. Participant/Trainee Support Costs

	Funds Requested (\$)
1. Tuition/Fees/Health Insurance	<input type="text"/>
2. Stipends	<input type="text"/>
3. Travel	<input type="text"/>
4. Subsistence	<input type="text"/>
5. Other <input type="text"/>	<input type="text"/>
<input type="text"/> Number of Participants/Trainees	
Total Participant/Trainee Support Costs	<input type="text"/>

F. Other Direct Costs**Funds Requested (\$)**

1. Materials and Supplies	122.00
2. Publication Costs	
3. Consultant Services	27,187.00
4. ADP/Computer Services	8,258.00
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
8. Others (photocopies, postage)	163.00
9.	
10.	
11.	
12.	
13.	
14.	
15.	
16.	
17.	

Total Other Direct Costs

(b) (4)

G. Direct Costs**Funds Requested (\$)**

Total Direct Costs (A thru F)

139,030.00

H. Indirect Costs

Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)
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OVERHEAD

COST OF MONEY

General & Administrative Costs

Cost of Money

(b) (4)

Total Indirect Costs

(b) (4)

Cognizant Federal Agency

(Agency Name, POC Name, and POC Phone Number)

I. Total Direct and Indirect Costs**Funds Requested (\$)**

Total Direct and Indirect Institutional Costs (G + H)

(b) (4)

J. Fee**Funds Requested (\$)****K. Total Costs and Fee****Funds Requested (\$)**

Total Costs and Fee (I + J)

(b) (4)

L. Budget Justification

(Only attach one file.)

1237-10005971 ONR Budget Justification

Add Attachment

Delete Attachment

View Attachment

RESEARCH & RELATED BUDGET - Budget Period 2

OMB Number: 4040-0001
Expiration Date: 12/31/2022

UEI: PKFJZHG2MLG9

Enter name of Organization: National Academies of Sciences

Budget Type: ☒ Project ☐ Subaward/Consortium

Budget Period: 2

Start Date: 09/01/2023

End Date: 08/31/2024

A. Senior/Key Person

Prefix	First	Middle	Last	Suffix	Base Salary (\$)	Months			Requested Salary (\$)	Fringe Benefits (\$)	Funds Requested (\$)	
						Cal.	Acad.	Sum.				
	Emily		Twigg						(b) (4)	(4)		
Project Role: PD/PI												
	Susan		Robert									
Project Role: Board Director												
	Maria		Dahlberg									
Project Role: Senior Program Officer/Acting Director												

Additional Senior Key Persons:

Add Attachment

Delete Attachment

View Attachment

Total Funds requested for all Senior Key Persons in the attached file

Total Senior/Key Person

64,879.73

B. Other Personnel

Number of Personnel	Project Role	Months			Requested Salary (\$)	Fringe Benefits (\$)	Funds Requested (\$)
		Cal.	Acad.	Sum.			
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
1	Secretarial/Clerical				(b) (4)		
3	Research Associate, Finance Business Partner, Communication Associate						
4	Total Number Other Personnel						

Total Other Personnel

25,772.27

Total Salary, Wages and Fringe Benefits (A+B)

(b) (4)

C. Equipment Description

List items and dollar amount for each item exceeding \$5,000

Equipment item	Funds Requested (\$)
<input type="text"/>	<input type="text"/>
Additional Equipment: <input type="text"/>	<input type="text"/>
<input type="button" value="Add Attachment"/>	<input type="button" value="Delete Attachment"/>
<input type="button" value="View Attachment"/>	
Total funds requested for all equipment listed in the attached file	<input type="text"/>
Total Equipment	<input type="text"/>

D. Travel

	Funds Requested (\$)
1. Domestic Travel Costs (Incl. Canada, Mexico and U.S. Possessions)	<input type="text" value="3,944.00"/>
2. Foreign Travel Costs	<input type="text"/>
Total Travel Cost	<input type="text" value="3,944.00"/>

E. Participant/Trainee Support Costs

	Funds Requested (\$)
1. Tuition/Fees/Health Insurance	<input type="text"/>
2. Stipends	<input type="text"/>
3. Travel	<input type="text"/>
4. Subsistence	<input type="text"/>
5. Other <input type="text"/>	<input type="text"/>
<input type="text"/> Number of Participants/Trainees	
Total Participant/Trainee Support Costs	<input type="text"/>

F. Other Direct Costs

		Funds Requested (\$)
1. Materials and Supplies		142.00
2. Publication Costs		
3. Consultant Services		4,330.00
4. ADP/Computer Services		9,568.00
5. Subawards/Consortium/Contractual Costs		
6. Equipment or Facility Rental/User Fees		
7. Alterations and Renovations		
8. Others (photocopies, postage, figure permission)		583.00
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
Total Other Direct Costs		(b) (4)

G. Direct Costs

Funds Requested (\$)
Total Direct Costs (A thru F)
109,219.00

H. Indirect Costs

Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)
OVERHEAD		(b) (4)	
Cost of Money			
General and Administrative Costs			
Costs and GA Cost of Money			
Total Indirect Costs			(b) (4)

Cognizant Federal Agency

(Agency Name, POC Name, and POC Phone Number)

I. Total Direct and Indirect Costs

Funds Requested (\$)
Total Direct and Indirect Institutional Costs (G + H)
(b) (4)

J. Fee

Funds Requested (\$)

K. Total Costs and Fee

Funds Requested (\$)
Total Costs and Fee (I + J)
(b) (4)

L. Budget Justification

(Only attach one file.)	1237-10005971 ONR Budget Justification	Add Attachment	Delete Attachment	View Attachment
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RESEARCH & RELATED BUDGET - Budget Period 3

OMB Number: 4040-0001

Expiration Date: 12/31/2022

UEI:

PKFJZHG2MLG9

Enter name of Organization:

National Academies of Sciences

Budget Type: ☒ Project☐ Subaward/Consortium

Budget Period: 3

Start Date: 09/01/2024

End Date: 02/28/2025

A. Senior/Key Person

Prefix	First	Middle	Last	Suffix	Base Salary (\$)	Months			Requested Salary (\$)	Fringe Benefits (\$)	Funds Requested (\$)
						Cal.	Acad.	Sum.			
	Emily		Twigg						(b)	(4)	
Project Role: PD/PI											
	Susan		Robert								
Project Role: Board Director											
	Maria		Dahlberg								
Project Role: Senior Program Officer/Acting Director											

Additional Senior Key Persons:

Add Attachment

Delete Attachment

View Attachment

Total Funds requested for all Senior Key Persons in the attached file

Total Senior/Key Person

18,730.56

B. Other Personnel

Number of Personnel	Project Role	Months			Requested Salary (\$)	Fringe Benefits (\$)	Funds Requested (\$)
		Cal.	Acad.	Sum.			
<input type="text"/>	Post Doctoral Associates	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	Graduate Students	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	Undergraduate Students	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	Secretarial/Clerical	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	Research Associate, Finance Business Partner, Communication Associate, NAP personnel	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	Total Number Other Personnel						

Total Other Personnel

11,261.44

Total Salary, Wages and Fringe Benefits (A+B)

(b) (4)

C. Equipment Description

List items and dollar amount for each item exceeding \$5,000

Equipment item	Funds Requested (\$)
<input type="text"/>	<input type="text"/>
Additional Equipment: <input type="text"/>	<input type="text"/>
<input type="button" value="Add Attachment"/>	<input type="button" value="Delete Attachment"/>
<input type="button" value="View Attachment"/>	
Total funds requested for all equipment listed in the attached file	<input type="text"/>
Total Equipment	<input type="text"/>

D. Travel

	Funds Requested (\$)
1. Domestic Travel Costs (Incl. Canada, Mexico and U.S. Possessions)	<input type="text"/>
2. Foreign Travel Costs	<input type="text"/>
Total Travel Cost	<input type="text"/>

E. Participant/Trainee Support Costs

	Funds Requested (\$)
1. Tuition/Fees/Health Insurance	<input type="text"/>
2. Stipends	<input type="text"/>
3. Travel	<input type="text"/>
4. Subsistence	<input type="text"/>
5. Other <input type="text"/>	<input type="text"/>
<input type="text"/> Number of Participants/Trainees	<input type="text"/>
Total Participant/Trainee Support Costs	<input type="text"/>

F. Other Direct Costs

		Funds Requested (\$)
1. Materials and Supplies		134.00
2. Publication Costs		13,346.00
3. Consultant Services		0.00
4. ADP/Computer Services		2,696.00
5. Subawards/Consortium/Contractual Costs		
6. Equipment or Facility Rental/User Fees		
7. Alterations and Renovations		
8. Others (photocopies, postage)		550.00
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
Total Other Direct Costs		(b) (4)

G. Direct Costs

Funds Requested (\$)
(b) (4)
Total Direct Costs (A thru F)

H. Indirect Costs

Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)
OVERHEAD	(b) (4)		
COST OF MONEY			
General & Administrative Costs			
Cost of Money			
Total Indirect Costs			(b) (4)

Cognizant Federal Agency

(Agency Name, POC Name, and POC Phone Number)

I. Total Direct and Indirect Costs

Funds Requested (\$)
(b) (4)
Total Direct and Indirect Institutional Costs (G + H)

J. Fee

Funds Requested (\$)

K. Total Costs and Fee

Funds Requested (\$)
(b) (4)
Total Costs and Fee (I + J)

L. Budget Justification

(Only attach one file.)	1237-10005971 ONR Budget Justification	Add Attachment	Delete Attachment	View Attachment
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RESEARCH & RELATED BUDGET - Cumulative Budget

		Totals (\$)
Section A, Senior/Key Person		136,834.31
Section B, Other Personnel		58,177.69
Total Number Other Personnel	13	
Total Salary, Wages and Fringe Benefits (A+B)		195,012.00
Section C, Equipment		
Section D, Travel		32,876.00
1. Domestic	32,876.00	
2. Foreign		
Section E, Participant/Trainee Support Costs		
1. Tuition/Fees/Health Insurance		
2. Stipends		
3. Travel		
4. Subsistence		
5. Other		
6. Number of Participants/Trainees		
Section F, Other Direct Costs		(b) (4)
1. Materials and Supplies	398.00	
2. Publication Costs	13,346.00	
3. Consultant Services	31,517.00	
4. ADP/Computer Services	20,522.00	
5. Subawards/Consortium/Contractual Costs		
6. Equipment or Facility Rental/User Fees		
7. Alterations and Renovations		
8. Other 1	1,296.00	
9. Other 2		
10. Other 3		
11. Other 4		
12. Other 5		
13. Other 6		
14. Other 7		
15. Other 8		
16. Other 9		
17. Other 10		

Section G, Direct Costs (A thru F)

Section H, Indirect Costs

Section I, Total Direct and Indirect Costs (G + H)

Section J, Fee

Section K, Total Costs and Fee (I + J)

(b) (4)

RESEARCH & RELATED Senior/Key Person Profile (Expanded)

PROFILE - Project Director/Principal Investigator			
Prefix:	<input type="text"/>	* First Name:	<input type="text" value="Emily"/>
		Middle Name:	<input type="text"/>
* Last Name:	<input type="text" value="Twigg"/>	Suffix:	<input type="text"/>
Position/Title:	<input type="text" value="Senior Program Officer"/>		
Department:	<input type="text" value="Ocean Studies Board"/>		
Organization Name:	<input type="text" value="National Academies of Sciences"/>		
Division:	<input type="text" value="Division on Earth and Life Studies"/>		
* Street1:	<input type="text" value="500 Fifth St, NW"/>		
Street2:	<input type="text"/>		
* City:	<input type="text" value="Washington"/>	County/ Parish:	<input type="text"/>
* State:	<input type="text" value="DC: District of Columbia"/>	Province:	<input type="text"/>
* Country:	<input type="text" value="USA: UNITED STATES"/>	* Zip / Postal Code:	<input type="text" value="20001-2726"/>
* Phone Number:	<input type="text" value="202-334-2351"/>	Fax Number:	<input type="text"/>
* E-Mail:	<input type="text" value="etwigg@nas.edu"/>		
Credential, e.g., agency login:	<input type="text"/>		
* Project Role:	<input type="text" value="PD/PI"/>	Other Project Role Category:	<input type="text"/>
Degree Type:	<input type="text"/>		
Degree Year:	<input type="text"/>		
* Attach Biographical Sketch	<input type="text" value="1234-Twigg resume.pdf"/>	<input type="button" value="Add Attachment"/>	<input type="button" value="Delete Attachment"/>
Attach Current & Pending Support	<input type="text"/>	<input type="button" value="Add Attachment"/>	<input type="button" value="Delete Attachment"/>
		<input type="button" value="View Attachment"/>	<input type="button" value="View Attachment"/>

PROFILE - Senior/Key Person 1			
Prefix:	<input type="text"/>	* First Name:	<input type="text" value="Susan"/>
		Middle Name:	<input type="text"/>
* Last Name:	<input type="text" value="Roberts"/>	Suffix:	<input type="text"/>
Position/Title:	<input type="text" value="Board Director"/>		
Department:	<input type="text" value="Ocean Studies Board"/>		
Organization Name:	<input type="text" value="National Academies of Sciences"/>		
Division:	<input type="text" value="Division on Earth and Life Studies"/>		
* Street1:	<input type="text" value="500 Fifth St, NW"/>		
Street2:	<input type="text"/>		
* City:	<input type="text" value="Washington"/>	County/ Parish:	<input type="text"/>
* State:	<input type="text" value="DC: District of Columbia"/>	Province:	<input type="text"/>
* Country:	<input type="text" value="USA: UNITED STATES"/>	* Zip / Postal Code:	<input type="text" value="20001-2726"/>
* Phone Number:	<input type="text" value="202-334-1729"/>	Fax Number:	<input type="text"/>
* E-Mail:	<input type="text" value="sroberts@nas.edu"/>		
Credential, e.g., agency login:	<input type="text"/>		
* Project Role:	<input type="text" value="Co-PD/PI"/>	Other Project Role Category:	<input type="text"/>
Degree Type:	<input type="text"/>		
Degree Year:	<input type="text"/>		
Attach Biographical Sketch	<input type="text" value="1235-Roberts CV.pdf"/>	<input type="button" value="Add Attachment"/>	<input type="button" value="Delete Attachment"/>
Attach Current & Pending Support	<input type="text"/>	<input type="button" value="Add Attachment"/>	<input type="button" value="Delete Attachment"/>
		<input type="button" value="View Attachment"/>	<input type="button" value="View Attachment"/>

RESEARCH & RELATED Senior/Key Person Profile (Expanded)

PROFILE - Senior/Key Person 2			
Prefix:	<input type="text"/>	* First Name:	<input type="text" value="Maria"/>
		Middle Name:	<input type="text"/>
* Last Name:	<input type="text" value="Dahlberg"/>	Suffix:	<input type="text"/>
Position/Title:	<input type="text" value="Acting Director"/>		
Department:	<input type="text" value="Board on Higher Education and Workforce"/>		
Organization Name:	<input type="text"/>		
Division:	<input type="text" value="Policy and Global Affairs"/>		
* Street1:	<input type="text" value="500 Fifth St, NW"/>		
Street2:	<input type="text"/>		
* City:	<input type="text" value="Washington"/>	County/ Parish:	<input type="text"/>
* State:	<input type="text" value="DC: District of Columbia"/>	Province:	<input type="text"/>
* Country:	<input type="text" value="USA: UNITED STATES"/>	* Zip / Postal Code:	<input type="text" value="20001-2726"/>
* Phone Number:	<input type="text" value="202-334-3372"/>	Fax Number:	<input type="text"/>
* E-Mail:	<input type="text" value="MDahlberg@nas.edu"/>		
Credential, e.g., agency login:	<input type="text"/>		
* Project Role:	<input type="text" value="CO-PD/PI"/>	Other Project Role Category:	<input type="text"/>
Degree Type:	<input type="text"/>		
Degree Year:	<input type="text"/>		
Attach Biographical Sketch	<input type="text" value="1236-MLDahlberg_CV 082022.pdf"/>	<input type="button" value="Add Attachment"/>	<input type="button" value="Delete Attachment"/>
Attach Current & Pending Support	<input type="text"/>	<input type="button" value="Add Attachment"/>	<input type="button" value="View Attachment"/>

BUDGET JUSTIFICATION

Increasing Diversity, Equity, Inclusion, Belonging, Accessibility and Justice (DEIBAJ) in the US Ocean Studies Community.

We are requesting partial support from ONR for 26 months for the project entitled Increasing Diversity, Equity, Inclusion, Belonging, Accessibility and Justice (DEIBAJ) in the US Ocean Studies Community. The project is estimated to cost \$1,262,979 of which ONR is requested to provide \$500,000.

Year 1: **\$220,000**

1. Personnel: **\$56,557**

Partial support is requested for the salaries of:

◇ Board Director @ 10% of annual salary of \$183,190 =	\$6,272.13
◇ Sr. Program Officer @ 60% of annual salary of \$106,507 =	\$21,880
◇ Sr. Program Officer/Acting Director @ 30% of annual salary of \$120,000 =	\$12,325
◇ Research Associate @ 30% of annual salary of 62,000 =	\$6,368
◇ Finance Business Partner @ 10% of annual salary of \$69,521 =	\$2,380
◇ Communication Associate @ 5% of annual salary of 56,160 =	\$961
◇ Program Assistant @ 40% of annual salary of \$46,507 =	\$6,369

2. Fringe:

Fringe is (b) (4) of base salaries of (b) (4) based on the Rate Agreement with ONR.

3. Travel: **\$28,932**

Domestic Travel requested from ONR: \$28,932

Travel is estimated at the rate of \$328 for domestic airfare, \$462/day for subsistence (includes lodging, meals). Thus a one-day travel costs \$790, and a 2-day travel costs \$1,252. The total cost of domestic travel for the project for the first year has been estimated at \$85,136, and NAS is requesting \$28,932 from ONR for the travel. Total costs have been calculated on the basis of:

- ◇ 15 committee members x 3 trips x \$1,252/2-day meeting = \$19,146.34;
- ◇ 10 experts members x 2 trips x \$1,252/2-day meeting = \$8,509.48;
- ◇ 3 staffs x 1 trip x \$1,252/2-day meeting = \$1,276.42;

4. Technology/Communications: **\$8,258**

This charge, bases on \$500/bi-weekly per network account utilized under project, which calculated per FTE, includes analyst support, the computer hot line, network connections, electronic mail, equipment, maintenance and software. The total cost of technology services in year 1 has been estimated at \$24,050 and NAS is requesting \$8,173 from ONR.

Communications costs include long distance telephone, telephone equipment charges, fax, modem and analog lines and other special circumstances such as conference calls. NAS is requesting \$85 from the total estimated cost is \$250.

5. Other Direct Cost:

Costs include (b) (4) for photocopies, (b) (4) for postage and delivery, (b) (4) for office (b) (4). Based on GSA.gov, the estimated rate for a science writer is (b) (4) per hour x (b) (4) hours = (b) (4) and NAS is requesting (b) (4) from ONR for a consultant in commissione p collect a spectrum of experiences of historically-excluded groups. This would include assistance in the development of an

approach to collection of this information with NASEM staff and members of the expert committee, implementation of the approach, and production of a white paper describing the results.

6. Indirect Costs

(b) (4)

Overhead costs are costs associated with the ongoing expenses of operating the program divisions of the National Academies and are allocated proportionally based on direct labor and fringe benefits. Overhead is calculated at (b) (4) of base of (b) (4) = (b) (4). Overhead cost of money is calculated at (b) (4) of base of (b) (4).

General and administrative (G&A) costs are the National Academies operational expenses. G&A is estimated at (b) (4) of base (b) (4) = (b) (4). G&A cost of money is estimated at (b) (4) of base (b) (4).

Year 2:**\$200,000****1. Personnel:****\$67,495**

Partial support is requested for the salaries of:

◇ Board Director @ 10% of annual salary of \$183,190 =	\$7,485
◇ Sr. Program Officer @ 60% of annual salary of \$106,507 =	\$26,111
◇ Sr. Program Officer/Acting Director @ 30% of annual salary of \$120,000 =	\$14,710
◇ Research Associate @ 30% of annual salary of 62,000 =	\$7,600
◇ Finance Business Partner @ 10% of annual salary of \$69,521 =	\$2,841
◇ Communication Associate @ 5% of annual salary of 56,160 =	\$1,147
◇ Program Assistant @ 40% of annual salary of \$46,507 =	\$7,601

2. Fringe:

For 2022 and 2023, they are calculated at the rate of (b) (4) of base salaries of (b) (4) = (b) (4)
In 2024, they are calculated at a rate of (b) (4) of base salaries of (b) (4) = (b) (4) These rates are based on a rate agreement with ONR.

3. Travel**\$3,944**

Travel in year 2 is expected for dissemination of the report, and may potentially include a briefing to the sponsor upon release and targeted dissemination to key audiences such as at a conference. Travel is estimated at the rate of \$328 for domestic airfare, \$462/day for subsistence (includes lodging, meals). Thus a one-day travel costs \$790, and a 2-day travel costs \$1,252. The total cost of domestic travel for the project for the second year has been estimated at \$10,016 and NAS is requesting \$3,944 from ONR for the travel. Total costs have been calculated on the basis of:

◇ 4 committee members x 2 trips x \$1,252/2-day meeting = \$3,944;

4. Technology/Communications:**\$9,568**

This charge, bases on \$500/bi-weekly per network account utilized under project, which calculated per FTE, includes analyst support, the computer hot line, network connections, electronic mail, equipment, maintenance and software. The total cost of technology services in year 2 has been estimated at \$24,050 and NAS is requesting \$9,469 from ONR

Communications costs include long distance telephone, telephone equipment charges, fax, modem and analog lines and other special circumstances such as conference calls. NAS is requesting \$98 from the total estimated cost is \$250.

5. Other Direct Cost:

Costs include (b) (4) for photocopies (b) (4) for postage and delivery, (b) (4) for office supplies, (b) (4) for figure permission fee, and (b) (4) for captioning/other accessibility features to make our meetin usive for people with disabilities.

6. Indirect Costs:

(b) (4)

Overhead costs are costs associated with the ongoing expenses of operating the program divisions of the National Academies and are allocated proportionally based on direct labor and fringe benefits. The current regular overhead rate 2022-2023 is (b) (4) and (b) (4) in 2024. The current overhead cost of money 2022-2023 is (b) (4) and (b) (4) in 2024. The Overhead and Overhead cost of money for this project in Y2 is (b) (4) of the base (b) (4) in 2023 and (b) (4)

General and administrative (G&A) costs are the National Academies operational expenses. These include business costs such as the executive offices of the Presidents, Facilities and Administrative Services (building operations), the Office of General Counsel (legal expenses), the Office of the Chief Financial Officer (budget, accounting, and accounts payable/receivable), research services, and staff development. The current G&A rate 2022-2023 is (b) (4) and (b) (4) in 2024 and G&A cost of money 2022-2023 is (b) (4) and (b) (4) in 2024. The G&A and G&A cost of money for this project in Y2 is (b) (4) of the base (b) (4) in 2023 and (b) (4) in 2024

Year 3:**\$80,000****1. Personnel:****\$22,099**

Partial support is requested for the salaries of:

◇ Board Director @ 5% of annual salary of \$183,190 =	\$3,611
◇ Sr. Program Officer @ 13% of annual salary of \$106,507 =	\$5,459
◇ Sr. Program Officer/Acting Director @ 10% of annual salary of \$120,000 =	\$4,731
◇ Research Associate @ 5% of annual salary of 62,000 =	\$1,222
◇ Finance Business Partner @ 6% of annual salary of \$69,521 =	\$1,644
◇ Communication Associate @ 5% of annual salary of 56,160 =	\$1,107
◇ Program Assistant @ 5% of annual salary of \$46,507 =	\$917
◇ NAP Personnel @ 13.7 days =	\$3,408

2. Fringe:

In 2024-2025, they are calculated at a rate of (b) (4) of base salaries of (b) (4) = (b) (4). These rates are based on a rate agreement with ONR.

3. Technology/Communications:**\$2,696**

This charge, bases on \$500/bi-weekly per network account utilized under project, which calculated per FTE, includes analyst support, the computer hot line, network connections, electronic mail, equipment, maintenance and software. The total cost of technology services in year 3 has been estimated at \$3,528 and NAS is requesting \$2,621 from ONR.

Communications costs include long distance telephone, telephone equipment charges, fax, modem and analog lines and other special circumstances such as conference calls. NAS is requesting \$74 from the total estimated cost is \$100.

4. Other Direct Cost:

Costs include (b) (4) for photocopies, (b) (4) for postage and delivery, (b) (4) for office supplies, (b) (4) for figure permission fee, and (b) (4) for report. This also includes preparation of the prepublication and printing of the final version of the report, which includes editing, composition, graphics, digitization, and printing costs.

5. Indirect Costs:

Overhead costs are costs associated with the ongoing expenses of operating the program divisions of the National Academies and are allocated proportionally based on direct labor and fringe benefits. The current regular overhead rate 2024-2025 is (b) (4). The current overhead cost of money 2024-2025 is (b) (4). Both are applied to salaries plus fringe (b) (4) totaling (b) (4).

General and administrative (G&A) costs are the National Academies operational expenses. These include business costs such as the executive offices of the Presidents, Facilities and Administrative Services (building operations), the Office of General Counsel (legal expenses), the Office of the Chief Financial Officer (budget, accounting, and accounts payable/receivable), research services, and staff development. The current G&A rate 2024-2025 is (b) (4) and G&A cost of money 2024-2025 is (b) (4). The G&A and G&A cost of money for this project in Y3 is (b) (4) of the base (b) (4).

Summary:

Total for Year 1: (b) (4)

Total for Year 2:

Total for Year 3:

TOTAL REQUEST: (b) (4)

CURRICULUM VITAE

Susan Jean Roberts

Phone: 202-334-1729

Email: sroberts@nas.edu

Internet: <https://www.nationalacademies.org/osb/ocean-studies-board>

EDUCATION

Ph. D.	1986	University of California, San Diego Scripps Institution of Oceanography Marine Biology
B. S.	1980	Duke University, <i>magna cum laude</i> Major: Zoology

APPOINTMENTS

4/2004 – present	Director, Ocean Studies Board The National Academies of Sciences, Engineering, and Medicine
2/2013 – 9/2013	Acting Director, Board on Atmospheric Sciences and Climate and Polar Research Board, National Research Council, The National Academies
4/2001– 3/2004	Senior Program Officer National Research Council, The National Academies
4/1998 – 3/2001	Program Officer National Research Council, The National Academies
9/1996 – 5/1997	Associate Faculty The Washington Center for Internships and Academic Seminars
12/1994 – 3/1998	Senior Staff Fellow National Cancer Institute, National Institutes of Health
12/1991 – 12/1994	Staff Fellow National Cancer Institute, National Institutes of Health
2/1987 – 9/1991	Postdoctoral Fellow University of California, Berkeley
12/1986 – 1/1987	Postdoctoral Research Associate Scripps Institution of Oceanography University of California, San Diego

Summer 1981 Microbial Ecology Summer Course
Marine Biological Laboratory, Woods Hole

9/1980 – 12/1986 Ph.D. Candidate
Scripps Institution of Oceanography
University of California, San Diego

FELLOWSHIPS AND AWARDS

2017 Elected Fellow of the American Association for the Advancement of Science

2002, 2009, Staff Performance Awards, Division of Earth and Life Studies, The
2013 National Academies

2001 Elected Fellow of the Washington Academy of Sciences

1999 Staff Performance Award, Commission on Geosciences and Earth Resources, the
National Academies

1990-1991 University of California Cancer Research Grant

1987 -1990 National Institutes of Health, Postdoctoral Fellowship

1981-1984 National Science Foundation, Pre-doctoral Fellowship

1982 Scripps Industrial Associates Research Award

1982 Southern California Academy of Sciences
Scientific Achievement Award

PROFESSIONAL ACTIVITIES

Member, American Association for the Advancement of Science

- AAAS Science Journalism Awards, Screening Committee (2009-2020)
- AAAS Fellowship Ad Hoc Selection Committee (2004-2007)

Member, U.S. National Committee for the Intergovernmental Oceanographic Commission
(2011-2018)

Editorial Panel Member, Global Ocean Science Report, Intergovernmental Oceanographic
Commission, UNESCO (2016-2017) and (2018-2020)

Member, American Geophysical Union

Panel Member, Update of American Geophysical Union, Ocean Research Position Statement (2012-2013)

Member, Association for the Sciences of Limnology and Oceanography

Association for Women in Science

President 1995-1997, Washington, DC Chapter

PUBLICATIONS

National Research Council Reports

From Monsoons to Microbes: Understanding the Ocean's Role in Human Health (1999)

Bridging Boundaries through Regional Marine Research (2000)

Marine Protected Areas: Tools for Sustaining Ocean Ecosystems (2001)

Under the Weather: Climate, Ecosystems, and Infectious Disease (2001)

A Process for Setting, Managing, and Monitoring Environmental Windows for Dredging Projects (2001)

Genetic Status of Atlantic Salmon in Maine, interim report (2002)

Effects of Bottom Trawling and Dredging on Seafloor Habitats (2002)

Decline of the Steller Sea Lion in Alaskan Waters: Untangling Food Webs and Fishing Nets (2003)

Nonnative Oysters in the Chesapeake Bay (2004)

Atlantic Salmon in Maine (2004)

Improving the Use of the "Best Scientific Information Available" Standard in Fisheries Management (2004)

A Review of the Draft Ocean Research Priorities Plan: Charting the Course for Ocean Science in the United States (2006)

A Review of the Ocean Research Priorities Plan and Implementation Strategy (2007)

Mitigating Shore Erosion Along Sheltered Coasts (2007)

Increasing Capacity for Stewardship of Oceans and Coasts (2008)

Shellfish Mariculture in Drakes Estero, Point Reyes National Seashore, California (2009)

Ecosystem Concepts for Sustainable Bivalve Mariculture (2010)

Ocean Acidification: A National Strategy to Meet the Challenges of a Changing Ocean (2010)

Sea Change: 2015-2025 Decadal Survey of Ocean Sciences (2015)

Other Relevant Publications

- Twigg, E., **S. Roberts**, and E. Hofmann (2020). Introduction to the special issue on understanding the effects of offshore wind development on fisheries. *Oceanography* 33(4):13–15, <https://doi.org/10.5670/oceanog.2020.401>.
- Bukvic, A., P. Biber, M. Barreto, and **S. Roberts** (2019). Socio-ecological Mobility: A Research Strategy for a New Coastline, *Coastal Management*, 47:6, 611-620, <https://doi.org/10.1080/08920753.2019.1669103>.
- Baker, D. J., M. Glackin, **S. J. Roberts**, R. W. Schmitt, E. S. Twigg, D. J. Vimont, R. A. Weller, (2019). The Challenge of Sustaining Ocean Observations. *Frontiers in Marine Science*, <https://doi.org/10.3389/fmars.2019.00105>.
- Briscoe, M., D. Glickson, **S. Roberts**, R. Spinrad, and J. Yoder (2016). A Moving Target: Matching graduate education with available careers for ocean scientists. *Oceanography* 29:22-30.
- Lang, M.A., R.L. Marinelli, **S. J. Roberts**, and P.R. Taylor, Eds. (2013). *Research and Discoveries: The Revolution of Science through Scuba*. Smithsonian Institution Scholarly Press, Washington, D.C.
- Roberts, S.** and K. Brink (2010). Managing Marine Resources Sustainably. *Environment* 42: 44-52.
- Roberts, S.** (2010) “A Report from the National Research Council: Mitigating Shore Erosion Along Sheltered Coasts.” In Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, *Puget Sound Shorelines and the Impacts of Armoring—Proceedings of a State of the Science Workshop*, May 2009: U.S. Geological Survey Scientific Investigations Report 2010–5254, pp. 85-90.
- Roberts, S.** (2008). Keynote: The National Academies Report on Mitigating Shore Erosion Along Sheltered Coasts, in *Management, Policy, Science and Engineering of Nonstructural Erosion Control in the Chesapeake Bay: Proceedings of the 2006 Living Shoreline Summit*. CRC Publ. No. 08-164, Gloucester Point, VA. 136 pp.; Erdle, S., J.L.D. Davis, and K.G. Sellner, eds.
- Benoit, J. and **Roberts, S.** (2007). The National Academies Report on Mitigating Shore Erosion Along Sheltered Coasts. *Proceedings of the Sixth International Symposium on Coastal Engineering and Science of Coastal Sediment Processes*. American Society of Civil Engineers, Reston, VA.
- Park, S. and **Roberts, S.** (2006). Nonnative Oysters in the Chesapeake Bay: A Case Study of a Proposed Introduction of an Exotic in Aquaculture. *Bulletin of the Aquaculture Association of Canada* 106: 88-97.
- Steele, J., **S. J. Roberts**, et al. (2005). “National Research Council Study on the Effects of Trawling and Dredging on Seafloor Habitat.” In *Benthic Habitats and the Effects of Fishing Activities*, Peter W. Barnes and James P. Thomas, ed., American Fisheries Society, 890 pp.
- Houde, E. and **Roberts, S.J.** (2004). “Marine Protected Areas: An Old Tool for New Circumstances.” In *Aquatic Protected Areas as Fisheries Management Tools*, J. Brooke Shipley, ed., American Fisheries Society, 301 pp.

Houde, E. and **Roberts, S.J.** (2001). Marine Protected Areas and Fishery Management in the Coastal Ocean: a U.S. Perspective. International Council for the Exploration of the Seas, CM 2001/Y:07.

EDUCATION

Masters of Science in Physics, The Pennsylvania State University, Department of Physics, University Park, PA, August 2011

Bachelor of Arts in Physics (Minor in Mathematics), Vassar College, Poughkeepsie, NY, May 2004

Honors and Awards: Phi Beta Kappa; Lucy Kellogg English Prize for Excellence in Physics; College Honors (equivalent to Magna cum laude); Departmental Honors, Roberts Graduate Fellowship; 2 time recipient of the Duncan Fellowship

SELECTED WORK EXPERIENCE**The National Academies of Sciences, Engineering, and Medicine**

Washington, DC

May 2012 on going

Currently the Acting Director of the Board on Higher Education and the Workforce and a Senior Program Officer and Study Director at the foremost STEM public policy non-profit research organization, with a focus on strengthening postsecondary education, supporting individuals through their scientific research career development, and improving equity, diversity, and inclusion to enhance recruitment, retention, and creativity, and innovation in STEM.

Positions

Service with several offices, committees, and boards

Acting Board Director

April 2022 on-going

Senior Program Officer

July 2020 on-going

Program Officer

November 2017-July 2020

Associate Program Officer

July 2014-October 2017

Research Associate

August 2012-June 2014

Program Associate

May-August 2012

Honors and Awards

Christine Mirzayan Fellow in Science and Technology Policy Fellowship (Winter 2012; COSEPUP),

Recipient of the 2013 "Rookie of the Year" award, 2 time recipient of the National Academies team collaboration award

Recipient of the 2019 "Service to the National Academies" award

Current Roles

Supervisor: Tom Wang

Board on Higher Education and the Workforce

December 2015 on-going

Serves as Acting Director, overseeing all Board-relating projects and activities, including staff team management

Develops and manages the strategic planning and fundraising for the Board

Serves as lead for the multi-phase project on Science of Effective Mentorship in STEM

Serves as lead or co-lead for projects on Promotion and Advancement of STEM Faculty and on series of highly-responsive projects related to the Impact of COVID-19 on Higher Education

Manages production, release, and dissemination for publications on STEM workforce and higher education

Provides research, analysis, writing, and editorial assistance for BHEW projects as required

Roundtable on Black Men and Black Women in Science, Engineering, and Medicine

June 2021 on-going

Serves as senior staff member for all Roundtable workshops, symposia, and publications

Serves as supervisor for and provides oversight and guidance to all Roundtable staff

Develops and manages the strategic planning and fundraising for the Roundtable

Selected Previous Roles with the National Academies

Served as lead for project on the Impact of COVID-19 on the Research Careers of Women in STEM

Served as project lead for National Academies initiatives on Diversity, Equity, and Inclusion in Sciences, Engineering, Medicine, and Public Policy

Served as staff lead for the Remediation Working Group of the Action Collaborative on Preventing Sexual Harassment in Higher Education

Organized and produced the annual National Academies Commemorative events for Black History Month and Women's History Month

SELECTED PUBLICATIONS

- National Academies of Sciences, Engineering, and Medicine. 2022. *Understanding and Offsetting Financial Barriers for Black Students in Science, Engineering, and Medicine: Programs, Partnerships, and Pathways: Proceedings of a Workshop*. Washington, DC: The National Academies Press. doi.org/10.17226/26576. (Gilda A. Barabino, Theodore J. Corbin, Jr., and Paula Whitacre, Rapporteurs, Cato T. Laurencin, Editor)
- National Academies of Sciences, Engineering, and Medicine. 2022. *Mentoring of Black Graduate and Medical Students, Postdoctoral Scholars, and Early-Career Faculty in Science, Engineering, and Medicine: Proceedings of a Workshop*. Washington, DC: The National Academies Press. doi.org/10.17226/26462. (Randall C. Morgan, Jr., Joan Y. Reede, and Paula Whitacre, Rapporteurs, Cato T. Laurencin, Editor)
- National Academies of Sciences, Engineering, and Medicine. 2022. *Promotion, Tenure, and Advancement through the Lens of 2020: Proceedings of a Workshop—in Brief*. Washington, DC: The National Academies Press. doi.org/10.17226/26405. (**Maria Lund Dahlberg** and Joe Alper, Rapporteurs)
- National Academies of Sciences, Engineering, and Medicine. 2021. *Educational Pathways for Black Students in Science, Engineering, and Medicine: Exploring Barriers and Possible Interventions: Proceedings of a Workshop*. Washington, DC: The National Academies Press. doi.org/10.17226/26391. (Olujimi Ajijola, Charles R. Bridges, Jr., Lynne M. Holden, and Paula Whitacre, Rapporteurs; Cato T. Laurencin, Editor)
- National Academies of Science, Engineering, and Medicine. 2021. *Undergraduate and Graduate STEM Students' Experiences During COVID-19: Proceedings of a Virtual Workshop Series*. Washington, DC: The National Academies Press. doi: 10.17226/26024. (Kerry Brenner, **Maria Lund Dahlberg**, and Joe Alper, Rapporteurs)
- National Academies of Sciences, Engineering, and Medicine. 2021. *The Impact of COVID-19 on the Careers of Women in Academic Sciences, Engineering, and Medicine*. Washington, DC: The National Academies Press. doi: 10.17226/26061. (Eve Higginbotham and **Maria Lund Dahlberg**, Editors)
- National Academies of Science, Engineering, and Medicine. 2020. *Re-envisioning Promotion and Advancement for STEM Faculty: Proceedings of a Workshop –in Brief*. Washington, DC: The National Academies Press doi: 10.17226/25742. (**Maria Lund Dahlberg** and Lida Beninson, Rapporteurs)
- National Academies of Sciences, Engineering, and Medicine. 2020. *Promising Practices for Addressing the Underrepresentation of Women in Science, Engineering, and Medicine: Opening Doors*. Washington, DC: The National Academies Press. doi: 10.17226/25585.
- National Academies of Sciences, Engineering, and Medicine. 2019. *The Science of Effective Mentoring in STEMM*. Washington, DC: The National Academies Press. doi: 10.17226/25568. (Angela Byars-Winston and **Maria Lund Dahlberg**, Editors)
- National Academies of Sciences, Engineering, and Medicine. 2018. *The Next Generation of Biomedical and Behavioral Sciences Researchers: Breaking Through*. Washington, DC: The National Academies Press. doi: 10.17226/25008.
- National Academies of Sciences, Engineering, and Medicine. 2018. *Sexual Harassment of Women: Climate, Culture, and Consequences in Academic Sciences, Engineering, and Medicine*. Washington, DC: The National Academies Press. doi: 10.17226/24994.
- National Academies of Sciences, Engineering, and Medicine. 2018. *Graduate STEM Education for the 21st Century*. Washington, DC: The National Academies Press. doi: 10.17226/25038.
- National Academies of Sciences, Engineering, and Medicine. 2017. *Effective Mentoring in STEMM: Practice, Research, and Future Directions: Proceedings of a Workshop—in Brief*. Washington, DC: The National Academies Press. doi: 10.17226/24815. (Yasmeen Hussain and **Maria Lund Dahlberg**, Rapporteurs)
- National Academies of Sciences, Engineering, and Medicine. *Quality in the Undergraduate Experience: What Is It? How Is It Measured? Who Decides? Summary of a Workshop*. Washington, DC: The National Academies Press, 2016. doi: 10.17226/23514. (Karin Matchett, **Maria Lund Dahlberg**, and Thomas Rudin, Rapporteurs)
- National Academies of Sciences, Engineering, and Medicine. *Promising Practices for Strengthening the Regional STEM Workforce Development Ecosystem*. Washington, DC: The National Academies Press, 2016. doi:10.17226/21894.
- National Academy of Sciences, National Academy of Engineering, and Institute of Medicine. 2014. *The Postdoctoral Experience Revisited*. Washington, DC: The National Academies Press. doi: 10.17226/18982.
- National Academy of Sciences, National Academy of Engineering, and Institute of Medicine. 2013. *The Experimental Program to Stimulate Competitive Research*. Washington, DC: The National Academies Press. doi: 10.17226/18384.
- National Academy of Sciences, National Academy of Engineering, and Institute of Medicine. 2013. *Trends in the Innovation Ecosystem: Can Past Successes Help Inform Future Strategies? Summary of Two Workshops*. Washington, DC: The National Academies Press. doi: 10.17226/18509. (Steve Olson and **Maria Dahlberg**, Rapporteurs)
- National Research Council. 2012. *Research Universities and the Future of America: Ten Breakthrough Actions Vital to Our Nation's Prosperity and Security: Summary*. Washington, DC: The National Academies Press. doi: 10.17226/13299.

(Full lists of publications and presentations with National Academies and of scientific publications, posters, and presentations are available upon request.)

EDUCATION

University of California, Santa Barbara – Bren School of Environmental Science & Management

Master of Environmental Science & Management (Degree: 6/11)

Concentration: Water Resource Management, Conservation Planning

Awards: Donald Bren Foundation Fellowship (2009-2010), Bren Student Fee Fellowship (Fall 2010)

University of California, Berkeley

Bachelor of Arts with Highest Honors – Integrative Biology Major; Classical Civilization Minor (Degree: 5/06)

Honors: Phi Beta Kappa, Dean's Honor List, Graduate with High Distinction (magna cum laude)

University of Minnesota – Itasca Biological Field Station: Animal Behavior; Animal Telemetry (Summer 2006)

WORK EXPERIENCE

The National Academies of Sciences, Engineering, and Medicine – Ocean Studies Board, Washington, DC

Senior Program Officer (12/20-present)

Program Officer (04/18-12/20)

Associate Program Officer (10/16- 04/18)

- Manages the National Academies study process by facilitating committee formation, coordinating with committee members and subject matter experts to plan workshops, and directing and contributing written content during the report writing process.

National Science Foundation – Division of Undergraduate Education, Arlington, VA

Science Education Analyst (8/14- 10/16)

- Supported two multi-million dollar grant programs by managing data, coordinating peer review panels, reviewing and updating solicitations, interacting with grantees, and creating communication material.

U. S. Environmental Protection Agency – Wetlands Division, Washington, DC

Oak Ridge Institute for Science and Education (ORISE) Research Participant (8/11- 8/14)

- Coordinated activities of a federal interagency workgroup by planning agenda items; identifying government, academic, and expert partners; and monitoring milestones at monthly workgroup meetings.
- Wrote content for four EPA reports based on environmental data about coastal habitat stressors and loss from published research and from information collected at stakeholder meetings in coastal regions.
- Wrote communication materials for the public and subject matter experts including creation of the EPA coastal wetlands webpage and information for conferences, webinars, and social media outreach.

The Irvine Ranch Conservancy, Irvine, CA

Science & Stewardship Intern (6/10-9/10)

- Designed and implemented a management plan to reduce human impacts in urban open space.
- Created a long-term monitoring plan and collected monitoring data at vegetation plots along roads and trails; performed analysis in R of camera trap data to correlate mammal activity with human access.

Coal Oil Point Reserve (UC Santa Barbara), Santa Barbara, CA

Restoration Intern (9/09-12/09)

- Performed restoration activities in grassland, coastal scrub, and wetland areas including removal of invasive species, planting of native plants on-site and in a greenhouse, and maintenance of previously restored sites.

Oregon Caves National Monument, Cave Junction, OR

Physical Science Technician (STEP) (7/09-9/09)

Resource Management Intern, Student Conservation Association (6/08-12/08)

- Collected environmental monitoring data about cave biota; analyzed data from a 2-year study on cave invertebrates to determine human impact on diversity.
- Created maps of vegetation, historic trails, and utility features using GPS units and ArcGIS.
- Presented scientific and historic information to the public during tours of the Oregon Caves.

Pacific Environment, San Francisco, CA

Environmental Policy Intern (5/05-8/05)

- Researched and created website content about environmental and public health issues related to international development projects.

Emily Twigg

ADDITIONAL EXPERIENCE

Research

- **Master's Thesis:** *Santa Cruz Island Biosecurity: Development of a plan to prevent the establishment of invasive organisms*
Clients: The Nature Conservancy and Channel Islands National Park
- **Undergraduate Honors Thesis:** *Shape Recognition in Stomatopod Crustaceans*
- **Cloudbridge Reserve,** *Volunteer*, Invertebrate biodiversity in disturbed forest, Costa Rica (10/07-12/07)
- **Valentine Reserve,** *Assistant*, Hummingbird forage behavior, Mammoth, CA (7/06)
- **Lawrence Berkeley Lab,** *Assistant*, Radiation impact on protein structure, Berkeley, CA (2/04-6/04)

Environmental Education

- **Wilderness Outdoor Leadership Foundation,** *Naturalist*, Thousand Oaks, CA (5/09)
- **Conejo Valley Unified School District,** *Hydrology Naturalist*, Malibu, CA (2/08-6/08)
- **San Francisco Zoo Summer Camp,** *Instructor*, San Francisco, CA (6/07-8/07)
- **Camp Highland Outdoor Science School,** *Naturalist*, Cherry Valley, CA (9/06-6/07)

PROJECT ABSTRACT

Increasing Diversity, Equity, Inclusion, Belonging, Accessibility, and Justice (DEIBAJ) in the US Ocean Studies Community

An ad hoc committee will undertake a study to ascertain the impediments, including past social policies leading to marginalization, and identify evidence-based approaches for increasing the racial and ethnic diversity of the ocean studies workforce. The committee's report will identify specific strategies to guide future activities to advance the adoption of evidence-based practices and policies for increasing diversity, equity, inclusion, belonging, accessibility and justice (DEIBAJ) in the ocean studies community.

The study will include the following:

- Collection of existing and new narratives from ocean enterprise professionals representing historically excluded, or marginalized, racial and ethnic groups to help clarify the variety of barriers that exist and the losses caused by these barriers not only to ocean studies but also to the individuals themselves. This will include consideration of intersectionality for other identifiers such as gender, sexual orientation, disability, native country, religion, and others.
- Analysis of policies, strategies, and practices of current and previously funded ocean studies programs that have sought to build more diverse, equitable, and inclusive working environments. This analysis will include identification of what has been successful and the metrics used to define success across a broad array of ocean studies institutions and potential examples from other STEM fields.
- Development of explicit goals in a coordinated strategy across ocean studies that relates to each element of DEIBAJ.

Identification of metrics to evaluate progress in the implementation of recommended strategies such as by educational institutions, government agencies, and other organizations (e.g. conservation groups, ocean industries) that employ experts in ocean studies.

Approved for Public Release

REFERENCES CITED

Increasing Diversity, Equity, Inclusion, Belonging, Accessibility, and Justice (DEIBAJ) in the US Ocean Studies Community

Haacker, R., M. Burt, and M. Vara. 2022. Moving beyond the business case for diversity. Eos 103. <https://doi.org/10.1029/2022EO220080>

Johnson, A., M.J. Huggans, D. Siegfried, and L. Braxton. 2016. Strategies for increasing diversity in the ocean science workforce through mentoring. Oceanography 29(1):46-54, <https://doi.org/10.5670/oceanog.2016.11>.

EQUIPMENT

Increasing Diversity, Equity, Inclusion, Belonging, Accessibility, and Justice (DEIBAJ) in the US Ocean Studies Community

MAJOR EQUIPMENT (Computer): Personal Computers are available to all staff working on the project plus a variety of software, including (but not limited to) Microsoft Word, Excel, Access, PowerPoint, Outlook and Windows applications.

FACILITIES AND OTHER RESOURCES

Increasing Diversity, Equity, Inclusion, Belonging, Accessibility, and Justice (DEIBAJ) in the US Ocean Studies Community

FACILITIES (Office): Offices are located in Washington, DC, at the National Academy of Sciences Building, 2101 Constitution Avenue NW and the Keck Center of the National Academies, 500 Fifth Street NW.

OTHER (Meeting Facilities): Meeting facilities are available at the National Academy of Sciences Building, 2101 Constitution Avenue NW, Washington, DC; the Keck Center of the National Academies, Arnold and Mabel Beckman Center of the National Academies, 100 Academy Drive, Irvine, CA.

**National Academies of Sciences, Engineering, and Medicine
Division on Earth and Life Studies
Ocean Studies Board**

COVER PAGE

BAA Number (ONR-BAA): N00014-22-S-B001

PROJECT TITLE:	Increasing Diversity, Equity, Inclusion, Belonging, Accessibility, and Justice (DEIBAJ) in the US Ocean Studies Community
PERIOD OF PERFORMANCE:	09/01/2022 to 02/28/2025
TOTAL COST:	(b) (4)
APPLICANT INSTITUTION: Street Address/City/State/Zip:	The National Academy of Sciences 500 Fifth Street, NW, Washington, D.C. 20001
DUNS:	04-196-4057
TAX ID:	53-019-6932
PRINCIPAL INVESTIGATOR:	Emily Twigg, Senior Program Officer Ocean Studies Board
Address:	500 Fifth Street, NW, Room Keck 652 Washington, D.C. 20001
Telephone Number:	202-334-2351
E-mail:	etwigg@nas.edu
AUTHORIZED REPRESENTATIVE:	Russell Walker, Contract Manager
Address:	Office of Contract and Grants 500 Fifth Street, NW, Room Keck 640 Washington, D.C. 20001
Phone:	202-334-2004
E-mail:	rwalker@nas.edu
Submitted to ONR:	Thomas Drake, code 320
E-mail:	thomas.g.drake6.civ@us.navy.mil

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TECHNICAL APPROACH

The National Academies of Sciences, Engineering, and Medicine provide independent, trustworthy advice and facilitate solutions to complex challenges by mobilizing expertise, practice, and knowledge in science, engineering, and medicine. The National Academies' work is guided by our values of independence, objectivity, rigor, inclusivity, and using evidence to guide decision making. Additionally, the National Academies are committed to the principles of diversity, inclusion, integrity, civility, and respect in all of our activities. All forms of discrimination and harassment by any participant in our activities are prohibited.

Objective

The National Academies of Sciences, Engineering, and Medicine (The National Academies) will conduct a consensus study to identify evidence-based approaches for increasing the racial and ethnic diversity of the ocean studies workforce. The study will lay groundwork for future actions that can be taken by the ocean studies community to improve racial and ethnic diversity, equity, inclusion, belonging, accessibility, and justice.

Statement of Task

An ad hoc committee will undertake a study to ascertain the impediments, including past social policies leading to marginalization, and identify evidence-based approaches for increasing the racial and ethnic diversity of the ocean studies workforce. The committee's report will identify specific strategies to guide future activities to advance the adoption of evidence-based practices and policies for increasing diversity, equity, inclusion, belonging, accessibility and justice (DEIBAJ) in the ocean studies community.

The study will include the following:

- Collection of existing and new narratives from ocean enterprise professionals representing historically excluded, or marginalized, racial and ethnic groups to help clarify the variety of barriers that exist and the losses caused by these barriers not only to ocean studies but also to the individuals themselves. This will include consideration of intersectionality for other identifiers such as gender, sexual orientation, disability, native country, religion, and others.
- Analysis of policies, strategies, and practices of current and previously funded ocean studies programs that have sought to build more diverse, equitable, and inclusive working environments. This analysis will include identification of what has been successful and the metrics used to define success across a broad array of ocean studies institutions and potential examples from other STEM fields.
- Development of explicit goals in a coordinated strategy across ocean studies that relates to each element of DEIBAJ.
- Identification of metrics to evaluate progress in the implementation of recommended strategies such as by educational institutions, government agencies, and other organizations (e.g. conservation groups, ocean industries) that employ experts in ocean studies.

Work Plan

This project will be conducted by an ad hoc committee of approximately 15 members with expertise and experience in addressing DEIBAJ, including members with familiarity with issues

specific to the training and conduct of ocean studies. The National Academies are committed to enhancing diversity and inclusion in order to strengthen the quality of our work. Diverse perspectives contribute to finding innovative approaches and solutions to challenging issues. We encourage the nomination of volunteers who reflect the populations we serve and also welcome in particular nominations of candidates from underrepresented racial and ethnic groups, women, and early- and mid-career professionals.

The committee is expected to convene six meetings (combination of virtual and in-person/hybrid) that may follow the approximate progression of goals:

- 1) Define the nature and scope of the issues, develop a plan for gathering and analyzing information from existing DEI activities and incorporating experiences from students and professionals in ocean studies;
- 2) Meet with STEM DEI experts from outside of ocean studies to identify effective practices and metrics;
- 3) Meet with ocean studies DEI experts to address issues specific to ocean science disciplines. Explore how structural and organizational aspects of ocean studies affect perceptions of professional opportunities and careers.
- 4) Meet with students, faculty, administrators, and workforce managers in public and private sectors to understand the spectrum of experiences of historically-excluded groups. A consultant may be commissioned to collect this information and produce a paper describing the results.
- 5) Closed session to prepare draft report, focusing on identifying and documenting effective practices and developing metrics for evaluating progress.
- 6) Closed session to respond to reviewers' comments, complete final report, develop dissemination plan.

Context and Future Naval Relevance

In the efforts to increase diversity in the STEM fields supported by the Office of Naval Research (ONR), there has been increasing recognition that equity, inclusion, justice, and belonging are essential considerations in developing a workforce composed of the full spectrum of talents and perspectives in the population (Haacker et al, 2022). The United States ocean sciences community has struggled for decades to increase diversity among those who study and ultimately pursue graduate degrees, academic appointments, and other professional positions in the field. Ongoing and future marine environmental challenges require a diverse workforce to produce “future global ocean science leaders who collaborate effectively to make discoveries, achieve solutions, and develop technologies” (Johnson et al., 2016). Inclusion of individuals with diverse backgrounds and perspectives will facilitate community engagement and coproduction of knowledge, identified as fundamental practices for developing the science to address sustainable development for the UN Ocean Decade of Ocean Science for Sustainable Development. Progress towards this goal will require a strategic, sustained, and extensive commitment to change for the recruitment and retention of a greater diversity of scientific talent. In tandem with the anti-racism, women’s rights, cultural diversity, environmental justice, and climate change movements, the U.S. has an opportunity to achieve positive change in the composition of the scientific workforce and in the conduct of ocean research across all aspects of ocean studies, including ocean science, social science, ocean affairs, policy and management, industry, defense, and others.

Current trends regarding representation of historically excluded racial and ethnic groups are discouraging. The number of ocean science doctoral degrees awarded annually to members of historically excluded groups has not increased substantially over the past decade. From 2014 - 2018, only ~ 6% of ocean science degrees were awarded to Hispanic/Latino, Black, and Native American students, compared to about 14% for science and engineering fields overall (National Center for Science and Engineering Statistics, 2021). Notably, widely used metrics are not available to document trends in equity, inclusion, belonging, accessibility, and justice.

In October 2020 and May 2021, the Ocean Studies Board held scoping sessions with potential sponsors, experts in diversity, and members of historically excluded racial and ethnic groups in the ocean enterprise to explore the issues and frame a study related to increasing DEIBAJ in the U.S. ocean studies community. Systemic physical and social barriers exist to increasing DEIBAJ within ocean studies and span a constellation of cultural attitudes and infrastructure that are unique to the ocean enterprise. These barriers include, but are not limited to, a lack of racial and ethnic diversity in leadership that is compounded by low turnover due to the relatively small size of many ocean studies programs. As such, remedies tied to hiring processes alone will be slow and likely insufficient to support the needs of students and early career scientists. Training often occurs at small coastal field stations embedded in remote communities that are themselves not particularly diverse. Ocean institutions are often located in small towns or cities lacking diverse communities. Furthermore, field research can involve ships with small scientific parties that lack diversity, where students may work at close quarters for weeks or months at a time, in isolated circumstances, and without the benefit of community-based support systems (informal networks as well as institution-based groups or organizations). Finally, relatively few colleges and universities have ocean studies (or oceanography or marine science) departments or majors, which lowers the visibility of the field and reduces opportunities to encourage students to pursue ocean-related professions. The combination of these factors, and many others, has impeded progress in developing a workforce that is more representative of the U.S. population as a whole and places the nation in a poor position to address the full spectrum of issues and opportunities in the ocean enterprise.

The lack of racial and ethnic diversity in the ocean studies is particularly troubling given the long standing efforts of federal and state agencies, professional societies, universities, and the private sector to address this issue. Past efforts, while numerous, lack an overarching framework or strategy for lasting and substantial change. In light of these particular challenges, this study would provide a coordinated strategy for these organizations to address DEIBAJ within the U.S. ocean enterprise of research, education, policy, conservation, resource management, and private industry. The study will provide an authoritative analysis to guide the ocean studies community in achieving DEIBAJ and help develop a culture of commitment to this end among the many institutions seeking to diversify their workforce.

Removing barriers to DEIBAJ while maintaining positive strengths within ocean studies will require a paradigm shift that relies on a thoughtful, creative, and tailored approach. Moving the field forward will require a focused, action-oriented approach. Issues that the committee may address to accomplish their task include: components and outcomes of model DEIBAJ programs

for ocean studies, ways to measure success in these and future programs, resource needs for operating DEIBAJ programs, and current opportunities and gaps.

Based on the outcomes of the in-depth, preparatory discussions described above, we propose to engage a wide range of experts in DEIBAJ and members of historically-excluded groups to share their lived experiences, both within the U.S. and internationally, and at various career stages in frank discussions, to examine critical issues, identify transformational and novel approaches, and synthesize the information into an action-oriented strategy. The goal is to develop and accelerate a strategic, coordinated plan to address DEIBAJ within ocean studies to achieve an ocean enterprise that is representative of U.S. population racial and ethnic diversity, is equitable and just, fosters a sense of belonging, and includes the talent, expertise, and perspectives necessary to address future ocean challenges.

Project Schedule and Milestones

The following is an approximate schedule for the conduct of the study, dependent on availability and ability to schedule events among the committee and invited experts as well as on the committee's approach to their task.

- Month 1-3: Study initiation; call for nominations of members to ad hoc committee; selection and approval of committee membership.
- Month 4: First committee meeting; discussion of statement of task with study sponsors (including ONR); committee work planning and discussion of approach to the task.
- Months 5-10: Committee information gathering; public sessions with outside experts.
- Months 5-17: Committee closed deliberations meeting; production of report documenting findings, conclusions, and/or recommendations.
- Month 18: External peer review.
- Month 19-20: Committee response to external peer review; production of final report content.
- Month 21: Approval of report by the National Academies.
- Month 21: Delivery of prepublication report; public release and briefings.
- Month 24: Delivery of final report.
- Month 24-30: Dissemination of report findings to federal, industry, academic, and foundation stakeholders.

Reports

Technical and Financial Progress Reports

The National Academies shall provide technical and financial reports as specified by the granting agency containing a narrative of general study progress and financial spending.

Final Report

The committee shall produce a report responsive to the guidance outlined in the "Statement of Task" including relevant findings, conclusions, and/or recommendations. The report shall be subject to National Academies review procedures. The committee shall subsequently disseminate the report through briefings, presentations at scientific conferences, and other targeted dissemination events. The report will be published by the National Academies Press and be made available for free PDF download by the public at <https://nap.nationalacademies.org/>.

MANAGEMENT APPROACH

Project Team

Principal Investigator

Emily Twigg, Ocean Studies Board (OSB) Senior Program Officer, will serve as the Principal Investigator for the *Increasing Diversity, Equity, Inclusion, Belonging, Accessibility, and Justice (DEIBAJ) in the US Ocean Studies Community Study*. In this role, she will comply with required procedures of the National Academies and the statement of work. She will manage the budget, organize meetings, gather background information, maintain communications and coordination with the sponsors and other National Academies project personnel, and comply with the contractual obligations and legal mandates. She will send out the call for nominations for committee membership, contact potential committee members, and prepare a draft slate of nominees for the Consensus Study Committee membership subject to review by the OSB director and senior leadership in DELS. She will oversee preparation and submission of the nomination slate for approval by the National Academies leadership. She will schedule and facilitate committee meetings. Additionally, she will ensure that the consensus report is objective, fair, and responsive to the study charge.

Key Team Members

Susan Roberts, OSB Director, Co-PI, is responsible for the development, implementation, and ongoing management and evaluation of activities within the OSB. Dr. Roberts develops the overall budget, including staffing requirements, and ensures that each activity meets the stated objectives and supports the mission of the National Academies. She also responds to requests for studies, and negotiates the scope of work and budget. Her oversight will include review of: the process for nomination and selection of members of the Consensus Study Committee; agendas for meetings; work schedules, time and budget management of the program officers, finance business partner, and program assistants. Dr. Roberts will provide the program officer with guidance on working with the Consensus Study Committee and she will ensure consistent application of institutional policies.

Maria Dahlberg, Senior Program Officer/Acting Director, Board on Higher Education and Workforce, Co-PI, will provide expertise related to education and workforce and experience from previous National Academies studies related to diversity, equity, and inclusion. She will provide input on selection of members of the Consensus Study Committee; agendas for meetings; information gathering approaches and contacts; and the committee's report.

Other Personnel

Leighann Martin, Research Associate, develops pertinent background research and drafts background papers; prepares preliminary outlines of projects to determine appropriate methodology; performs research and analysis; edits report material developed by committee members and staff; responds to inquiries about study activities and increases public awareness of studies; manages reference databases; and may assist with administrative duties related to programs/projects.

Thanh Nguyen, OSB Finance Business Partner, prepares budgets, examines expenditures, and prepares financial reports. She will prepare budget estimates and projections for the activities under the award. She will review expenditures to ensure conformance to budget and other compliance requirements. She will maintain records of expenses and budget balances and reconcile monthly financial reports. She will monitor program fiscal operations to ensure that expenses are in compliance with auditing requirements, contractual obligations and budgetary limitations, federal and sponsor regulations, and NASEM policies and procedures.

Alexis Bryant, OSB Program Assistant, will handle meeting logistics, including making arrangements for meeting rooms, IT and A/V requirements, and travel and accommodations for invited experts, committee members, and staff. She will carry out administrative project duties for the consensus study committee and provide routine clerical support for the program manager. These project duties will include preparation of spreadsheets for nominees to the committee, formatting of the official nominations memo for submission for National Academies approval, routine email and phone communications with committee members on meeting and travel logistics, formatting of meeting agendas and meeting recaps, and maintenance of detailed records for all meeting expenses (hotels, meals, travel arrangements for committee members). She will be responsible for tracking travel reimbursement forms for the committee members and submitting them to the National Academies travel office for final review and disbursement.

The **Communications/Media Associate** coordinates internal and external communication and/or media activities (e.g., projects, programs, events, and related efforts). She/He will collaborate with staff on communication and dissemination strategies. She/He will compile and prepare material for dissemination through a variety of types of media. She/He will also assist in the development, design, and implementation of outreach and communication projects, using various media such as print, electronic, video, and web-based products. She/He will also help to develop media dissemination plans, including media coverage for both lay and scientific audiences; and production of online products and services for journalists and the general public.

PRINCIPAL INVESTIGATOR QUALIFICATIONS

The Principal Investigator for the *Increasing Diversity, Equity, Inclusion, Belonging, Accessibility, and Justice (DEIBAJ) in the US Ocean Studies Community Consensus Study* is Emily Twigg. Emily Twigg is a Senior Program Officer of the Ocean Studies Board in the Division on Earth and Life Studies at the National Academies of Sciences, Engineering, and Medicine. Her responsibilities in this role include the facilitation of projects across a wide range of ocean sciences issues. She has been with the Ocean Studies Board since 2016, serving as study director for 7 consensus studies and convening activities in that timeframe, in addition to serving in an advisory role on several others. Prior to her service at the National Academies, she held positions at the National Science Foundation and the U.S. Environmental Protection Agency. She has a master's degree in environmental science and management from the University of California, Santa Barbara and a bachelor's degree in biology from the University of California, Berkeley.

Susan Roberts became the Director of the Ocean Studies Board in April 2004. Dr. Roberts received her Ph.D. in marine biology from the Scripps Institution of Oceanography. Prior to her

position at the Ocean Studies Board, she worked as a postdoctoral researcher at the University of California, Berkeley and as a senior staff fellow at the National Institutes of Health. Dr. Roberts' research experience has included fish physiology and biochemistry, marine bacterial symbioses, developmental cell biology, and environmentally induced leukemia. Dr. Roberts specializes in the science and management of living marine resources. She has served as study director for 18 reports on topics covering a broad range of ocean science, marine resource management, and science policy issues. She is a member of the U.S. National Committee for the Intergovernmental Oceanographic Commission (IOC) and serves on the IOC panel for the Global Ocean Science Report. Dr. Roberts is a member of the American Association for the Advancement of Science, American Geophysical Union, and the Association for the Sciences of Limnology and Oceanography. She is an elected Fellow of the Washington Academy of Sciences (2001) and the American Association for the Advancement of Science (2017).

Maria Lund Dahlberg is the Acting Director of the Board on Higher Education and Workforce of the National Academies of Sciences, Engineering, and Medicine. In that role, she oversees a portfolio of projects related to enhancing the education and career development of science, engineering, and healthcare professionals. The Board's current work focuses on the Role and Support of Historically Black Colleges and Universities and other Minority Serving Institutions; the Science on Effective Mentoring in STEMM (Science, Technology, Engineering, Mathematics, and Medicine); and Equity, Diversity, and Inclusion in Postsecondary Education. During her tenure with the National Academies, Ms. Lund Dahlberg has worked on topics spanning equity and identity in science, through science communications, to postdoctoral research experiences, health care, and innovation ecosystems. She came to the National Academies by way of a Christine Mirzayan Science and Technology Policy Fellowship, which she received after completing all requirements short of finalizing the dissertation for her doctorate in physics at the Pennsylvania State University. Ms. Lund Dahlberg holds a BA with high honors in physics from Vassar College and an MS in physics from the Pennsylvania State University.

RESPONSIBILITY

Financial Management

The Office of the Chief Financial Officer provides strong financial leadership for the National Academies by promoting effective financial management, maintaining a proper system of fiscal controls, and providing timely and accurate financial information to all stakeholders in furtherance of the National Academies' mission.

Grant Management

The Office of Contracts and Grants (OCG) provides administrative support to the Academies' program units and serves as the communication interface between National Academies staff and our Federal, State and Private sponsors. Some of the key functions of OCG include: proposal review and submission; contract negotiation; award administration; contract compliance; dispute resolution; damage control; regulatory reporting requirements for small business utilization, FFATA and Service Contract Labor reporting; institutional legal certifications; procurement; and subaward administration.

Performance History

The National Academies is a unique and valued institution that works under a federal charter established over 150 years ago to advise the nation through the efforts and intellectual input of volunteer experts in science, engineering, and medicine, as well as the National Academies staff. The Ocean Studies Board (OSB) and other units at the National Academies have previously worked with ONR on consensus reports and convening activities that help provide a science and technology basis for ONR programmatic research directions. These studies have included Assessment of the Cumulative Effects of Anthropogenic Stressors on Marine Mammals, Developing a U.S. Research Agenda to Advance Subseasonal to Seasonal Forecasting, Assessing Requirements for Sustained Ocean Color Research and Operations, The Future of Arctic Sea Ice Research in Support of Seasonal-to-Decadal Prediction, and Evolution of the National Oceanographic Research Fleet.

Quality Assurance

The National Academies study process includes many quality control procedures. These steps include committee selection and approval, committee meetings (for information gathering and deliberations, and drafting the report), and report review – the final check on the quality of the report before it is released to the public. The National Academies consensus study process is described in further detail at: <https://www.nationalacademies.org/about/our-study-process>. Aspects of the Study Committee selection process are highlighted here for their relevance to Quality Assurance.

DATA MANAGEMENT PLAN

The National Academies will not generally conduct original research or generate data, and thus no detailed Data Management Plan is appropriate for this proposal. However, we are committed to open access to information. Accordingly, we maintain timely project information on the National Academies website, which allows anyone access to any committee's Statement of Task, membership, and meeting agendas for all FACA-compliant projects under the Academies' oversight. It also is the portal into requesting Public Access Information; we maintain careful files of all materials provided to our committees and this information is available upon request. Open sessions in our meetings are open to anyone who wishes to attend. All reports generated are available in paper and PDF formats from National Academies Press. The National Academies website (<https://www.nationalacademies.org>) provides links to all ongoing projects and completed reports, access to derivative products and other materials. Finally, at the end of all projects relevant project information is compiled and archived following normal National Academies procedures.

In the event that a committee undertakes data collection, the methods used for analytical activities will be presented clearly in the report or in an appendix, as though prepared for a journal article, and all assumptions and data limitations should be catalogued and acknowledged in the body of the manuscript. If independent contractors or consultants are commissioned for the project, their names and qualifications should be described in the report or in an appendix. The raw data, any original analysis instruments, and the documentation necessary to replicate the collection, analysis, or modeling activities relevant to the results presented in the report should be available in the project's Public Access File, and instructions for accessing this information

will be provided in the report. In order to evaluate the credibility of original quantitative work, the National Academies will appointment one or more expert reviewers with specific knowledge of the analytic or modeling techniques employed to examine carefully sections of the report describing the data collection, analysis, or modeling activities.

FEDERAL ADVSORY COMMITTEE ACT (FACA)

The National Academy of Sciences has developed policies and procedures to implement Section 15 of the Federal Advisory Committee Act, 5 U.S.C. App., Section 15. Section 15 includes certain requirements regarding public access and conflicts of interest that are applicable to agreements under which the Academy, using a committee, provides advice or recommendations to a Federal agency. In accordance with its Congressional Charter and the requirements of Section 15, the Academy must provide independent, unbiased advice without actual or perceived interference or management of the outcome (findings and recommendations). Therefore, the Academy requires the right to publish all unclassified materials without any restriction over content and release, including any restriction that may require prior approval from the sponsoring agency.

In accordance with Section 15 of FACA, the Academy shall submit to the government sponsor(s) following delivery of each applicable report a certification that the policies and procedures of the Academy that implement Section 15 of FACA have been substantially complied with in the performance of the contract/grant/cooperative agreement with respect to the applicable report.

PUBLIC INFORMATION ABOUT THE PROJECT

In order to afford the public greater knowledge of Academy activities and an opportunity to provide comments on those activities, the Academy may post on its website (<http://www.nationalacademies.org>) the following information as appropriate under its procedures: (1) notices of meetings open to the public; (2) brief descriptions of projects; (3) committee appointments, if any (including biographies of committee members); (4) report information; and (5) any other pertinent information.